

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A brake system for a vehicle, comprising:

a first brake system that mechanically applies a braking force to wheels according to a master cylinder hydraulic pressure outputted from a master cylinder which receives a brake manipulation force of a driver, the master cylinder being a tandem master cylinder, the first brake system being constructed by two independent circuits which connect two master cylinder hydraulic pressure outlets of the tandem master cylinder and two brake units for two wheels, respectively, the two independent circuits of the first brake system being for left and right wheels and being connected to the tandem master cylinder; and

a second brake system that applies a braking force to other wheels according to ~~at least a braking state of the first brake system~~ a hydraulic pressure at a position of at least one of the two independent circuits.

2. (Original) The brake system as claimed in claim 1, wherein the brake manipulation force is inputted through a booster to the master cylinder.
3. (Original) The brake system as claimed in claim 1, wherein the braking state of the first brake system includes the brake manipulation force generated by the driver.
4. (Canceled)
5. (Canceled)
6. (Withdrawn - Currently Amended) The brake system as claimed in claim ~~[[5]]~~ 1, wherein the braking state of the first brake system includes hydraulic pressures at portions of the respective independent circuits of the first brake system.
7. (Original) The brake system as claimed in claim 1, further comprising:

a first braking force calculating section that calculates the braking force of the first brake system from the braking state of the first brake system;

a demand deceleration calculating section that calculates a vehicle demand deceleration from the braking state of the first brake system;

a second braking force calculating section that calculates a target braking force of the second brake system so that the target braking force achieves the vehicle demand deceleration in coordination with the braking force of the first brake system; and

a second brake system controlling section which controls the second brake system so as to generate the target braking force.

8. (Currently Amended) ~~The brake system as claimed in claim 1,~~ A brake system for a vehicle, comprising:

a first brake system that mechanically applies a braking force to wheels according to a master cylinder hydraulic pressure outputted from a master cylinder which receives a brake manipulation force of a driver; and

a second brake system that applies a braking force to other wheels according to at least a braking state of the first brake system;

~~wherein~~ a regenerative brake apparatus ~~for applying~~ that applies a braking force, by converting rotational energy of wheels into electric energy and by storing the electric energy in a battery, ~~is adapted to the wheels which receives~~ receive the braking force from one of the first brake system and the second brake system;

a first braking force calculating section that calculates the braking force of the first brake system from the braking state of the first brake system;

a demand deceleration calculating section that calculates a vehicle demand deceleration from the braking state of the first brake system;

a target braking force and regenerative braking force calculating section that calculates a target braking force of the second brake system and a regenerative braking force of the regenerative brake apparatus from the braking force of the first brake system and the vehicle demand deceleration so that the vehicle demand deceleration is achieved by the braking force of the first brake system, the target braking force and the regenerative braking force;

a target braking force and regenerative braking force correcting section that obtains a corrected target braking force and a corrected regenerative braking force by correcting the target braking force and the regenerative braking force so that a braking force distribution to a front axle and a rear axle of the vehicle does not generate a rear wheel lock prior to a front wheel lock;

a second brake system controlling section that controls the second brake system so as to generate the corrected target braking force; and

a regenerative brake apparatus controlling section that controls the regenerative brake apparatus so as to generate the corrected regenerative braking force.

9. (Canceled)

10. (Canceled)

11. (Currently Amended) ~~The brake system as claimed in claim 8, further~~ A brake system for a vehicle, comprising:

a first brake system that mechanically applies a braking force to wheels according to a master cylinder hydraulic pressure outputted from a master cylinder which receives a brake manipulation force of a driver;

a second brake system that applies a braking force to other wheels according to at least a braking state of the first brake system;

a regenerative brake apparatus that applies a braking force by converting rotational energy of wheels into electric energy and stores the electric energy in a battery, the

regenerative brake apparatus being adapted to wheels which receive the braking force from one of the first brake system and the second brake system;

a front axle braking force increasing device that is capable of increasing the braking force of a front axle independent from the first brake system;

a first braking force calculating section that calculates the braking force of the first brake system from the braking state of the first brake system;

a demand deceleration calculating section that calculates a vehicle demand deceleration from the braking state of the first brake system;

a target braking force and regenerative braking force calculating section that calculates a target braking force of the second brake system and a regenerative braking force of the regenerative brake apparatus from the braking force of the first brake system and the vehicle demand deceleration so that the vehicle demand deceleration is achieved by the braking force of the first brake system, the target braking force and the regenerative braking force;

a corrected braking force and increased quantity calculating section that obtains a corrected target braking force, a corrected regenerative braking force and a front axle braking force increasing quantity by correcting the target braking force and the regenerative braking force so that the sum of the braking force of the first brake system, the corrected target braking force, the corrected ~~generating~~ regenerative braking force and the front axle braking force increasing quantity being maintained at a value corresponding to the vehicle demand deceleration and so that a braking force distribution to a front axle and a rear axle of the vehicle does not generate a rear wheel lock prior to a front wheel lock;

a second brake system controlling section that controls the second brake system so as to generate the corrected target braking force;

a regenerative brake apparatus controlling section that controls the regenerative brake apparatus so as to generate the corrected regenerative braking force ~~brake~~;
and

a front axle braking force increasing device controlling section that controls the front axle braking force increasing section so as to generate the front axle braking force increasing quantity.

12. (Currently Amended) The brake system as claimed in claim 11, wherein when a rear wheel slip preventing apparatus for preventing a braking slip of rear wheels is operating, the front axle braking force increasing device ~~increase~~ increases a front axle braking force by a rear wheel braking force decreasing quantity generated by a slip preventing operation of a rear wheel slip preventing apparatus.

13. (Currently Amended) The brake system as claimed in claim ~~[[10]]~~ 8, wherein front two wheels of the vehicle receive the braking force of the first brake system, rear two wheels of the vehicle ~~receives~~ receive the target braking force of the second brake system, and the regenerative braking force is increased by decreasing the braking force of the first brake system applied to the front wheels so as to be smaller than the braking force of the second brake system applied to the rear wheels.

14. (Original) The brake system as claimed in claim 8, wherein the regenerative brake apparatus is adapted to rear two wheels.

15. (Withdrawn) The brake system as claimed in claim 1, wherein the first brake system comprises a first pressure increasing and decreasing valve through which a first brake hydraulic pressure of the first brake system is controlled, and the second brake system comprises a second pressure increasing and decreasing valve through which a second brake hydraulic pressure of the second brake system is controlled according to at least a detection result of a braking state of the first brake system,

wherein the brake system further comprises a pressure source selector valve which is disposed between a circuit connecting the master cylinder of the first brake system and the first pressure increasing valve and a circuit connecting another pressure source of the second brake system and the second pressure increasing and decreasing valve, the pressure source selector valve being normally closed, the pressure source selector valve being opened

so as to employ the another pressure source of the second brake system as a pressure source of the first brake system.

16. (Withdrawn) The brake system as claimed in claim 15, wherein a master cut valve is disposed at a portion near the master cylinder in the circuit connecting the master cylinder of the first brake system and the first pressure increasing and decreasing valve.

17. (Withdrawn) The brake system as claimed in claim 15, wherein a fail safe valve, which is closed when the pressure source of the second brake system is put in a disabled state, is disposed between the pressure source of the second brake system and the second pressure increasing and decreasing valve, and the pressure source selector valve is closed when the pressure source of the second brake system is put in the disabled state.

18. (Withdrawn) The brake system as claimed in claim 15, wherein the second brake system is constructed by two independent circuits which independently comprise pressure sources, respectively.

19. (Withdrawn) The brake system as claimed in claim 15, further comprising a drain cut valve which is disposed in a drain circuit for a pressure decreasing valve of the pressure increasing and decreasing valves for the first brake system and the second brake system.

20. (Withdrawn) The brake system as claimed in claim 15, further comprising a discharge block valve which is disposed in a drain circuit for a pressure decreasing valve of the pressure increasing and decreasing valves for the first brake system and the second brake system.

21. (Withdrawn) The brake system as claimed in claim 20, further comprising an accumulator which is connected to the drain circuit upstream of the discharge block valve, the accumulator storing the brake fluid discharged from the master cylinder when the discharge block valve is closed.

22. (Withdrawn) The brake system as claimed in claim 20, further comprising a reservoir which is connected to the drain circuit downstream of the discharge block valve,

another pressure source which is connected to the drain circuit upstream of the discharge block valve so that the brake fluid is supplied to the another pressure source from the drain circuit, and a check valve which is disposed in the drain circuit so as to be disposed in parallel with the discharge block valve.

23. (Currently Amended) A method of controlling a brake system of a vehicle, comprising[[:]] :

mechanically applying a first braking force to wheels utilizing a first brake system according to a master cylinder hydraulic pressure outputted from a master cylinder which receives a brake manipulation force of a driver, the master cylinder being a tandem master cylinder, the first brake system being constructed by two independent circuits which connect two master cylinder hydraulic pressure outlets of the tandem master cylinder and two brake units for two wheels, respectively, the two independent circuits of the first brake system being for left and right wheels and being connected to the tandem master cylinder; and

applying a second braking force to other wheels according to ~~at least a braking state of a brake system of generating the first braking force~~ a hydraulic pressure at a position of at least one of the two independent circuits.

24. (Currently Amended) A brake system for a vehicle, comprising:

first braking means for mechanically applying a braking force to wheels according to a master cylinder hydraulic pressure outputted from a master cylinder which receives a brake manipulation force of a driver, the master cylinder being a tandem master cylinder, the first brake means being constructed by two independent circuits which connect two master cylinder hydraulic pressure outlets of the tandem master cylinder and two brake units for two wheels, respectively, the two independent circuits of the first brake means being for left and right wheels and being connected to the tandem master cylinder; and

second braking means for applying a braking force to other wheels according to ~~at least a braking state of the first braking means~~ a hydraulic pressure at a position of at least one of the two independent circuits.

25. (New) The brake system of claim 1, wherein the first brake system is hydraulically isolated from the second brake system.
26. (New) The brake system of claim 8, wherein the master cylinder is a tandem master cylinder.
27. (New) The brake system of claim 1, wherein hydraulic fluid of the first circuit is in fluid isolation from hydraulic fluid of the second circuit.